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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/559,892

12/06/2005

Michael Singh

SD/3-22346/A/PCT

2858

324 7590 08/19/2008

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EXAMINER

TREIDL, JESSICA I

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

08/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/559,892	Applicant(s) SINGH, MICHAEL	
	Examiner JESSICA TREIDL	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Cline et al (US 3,090,664), when taken with Gulina et al "Fibre Chemisorbents Based on Modified Graft Copolymers of Cellulose and Polycaproamide" & Kakizawa et al (US 2008/0145432) (evidentiary support).

Regarding claim 11, Cline et al teach forming a graft polymer (Title) by intimately contacting polymeric structures {polymeric substrate} with unsaturated organic acid {at least one ethylenically unsaturated monomer} and then subjecting the composition to ionizing radiation to cause adherence among the composition components {grafting of monomer onto the substrate and photo polymerization} (1:14-20). Furthermore, the reference teaches adding a photoinitiator to the solution, such as benzophenone {type II photoinitiator} (3:65-4:8).

Although Cline et al discloses a graft polymer, it does not explicitly disclose the polymer as a surfactant. However, Cline et al make special note of nylon-66 and nylon-

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6, polyhexamethylene adipamide and polycaproamide respectively, as suitable polymers (2:40-41) and acrylic acid as a preferred grafting monomer. It is known in the art that polyacrylic acid is hydrophilic as evidenced by US 2008/0145432 [0016] (see Response to Arguments). Additionally, it is known in the art that nylon-6, polycaproamide, is hydrophobic as evidenced by Gulina et al P444/¶2. Accordingly the graft co-polymer taught by Cline et al comprises both hydrophilic and hydrophobic parts thus acting inherently as a surfactant.

Regarding claims 12 and 13, Cline et al teach the method wherein the polymeric substrate, unsaturated organic acid compound and photoinitiator are dispersed in water (3:60-63).

Claims 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Hartmann et al (US 5,753,759).

Regarding claim 11, Hartmann et al teach forming a graft polymer (Abstract), for use as a dispersant {surfactant} (1:64), comprising free radical polymerization of monoethylenically unsaturated monomers in the presence of polymers (1:58-60), wherein the composition may contain a UV initiator such as a triplet sensitizer {type II photoinitiator} (6:56), wherein copolymerization is carried out by the action of ultraviolet radiation (6:49-51).

Regarding claims 12 and 13, Hartmann et al teach the graft polymerization carried out in the presence of inert solvents such as toluene (5:18-28).

Response to Arguments

Applicant's argument that "although US 5830546 refers to the majority of {emphasis added} polyamides as hydrophilic and although nylon-6 and 66 are polyamides this document describes polyamides which are very different from either of nylon-6 or 66 and does not specifically state that either of nylon-6 or 66 are hydrophilic . . . From this it cannot be concluded that these materials are hydrophilic", is not found persuasive. Regardless of the similarities between Nylon-6 and Nylon-66 and the polymers taught by US 5830546, the reference positively states "the majority of the polyamides are very hydrophilic; this is the case for polyhexamethylene-adipamide, among others", wherein polyhexamethylene-adipamide is nylon 66.

Applicant's argument that "there is nothing in Cline et al to suggest that the thus formed graft polymer would in any way be suitable as surfactants", in lieu of their preparation as "solid structures", is not found persuasive. Cline et al teach the polymer (nylon -6, 66) being in a "shaped structure" that may take the form of flakes, powder or comminuted particles (3:10-21). It is the position of the Examiner that the powdered polymer in solution after graft co-polymerization would not be too solid nor mobile enough to act as a surfactant.

Regarding Applicant's argument that "although the paragraph [256] of US 2007/0191226 includes the term polyacrylic acid and at the end of the list uses the phrase, 'hydrophobic polymer latices' this is not conclusive proof that polyacrylic acid is hydrophobic; on the contrary polyacrylic acid is water-soluble and therefore hydrophilic",

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is found persuasive. Examiner agrees with Applicant that polyacrylic acid is hydrophilic. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Cline et al (US 3,090,664) and Hartmann et al (US 5,753,759).

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSICA TREIDL whose telephone number is (571)270-3993. The examiner can normally be reached on Monday- Thursday, 7:30AM- 5PM EST, Alt. Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo, Ph.D./
Supervisory Patent Examiner, Art Unit 1796
16-Aug-08

/J.T./
/8.5.08/